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MONITORING OF PROCESS ABNORMALITY AND APPARATUS THEREOF

Patent Number: JP9191032
Publication date: 1997-07-22
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Requested Patent: ☐ JP9191032
Application Number: JP19960002736 19960111
Priority Number(s):
IPC Classification: H01L21/66; G01N21/88; G06T7/00
EC Classification:
Equivalents:

Abstract

PROBLEM TO BE SOLVED: To automatically judge an abnormality in processes of a semiconductor wafer and judge the necessity or non-necessity of its review.

SOLUTION: The apparatus stores defect/foreign matter coordinate data in a data storage means DB through a network Nt from an appearance detector GK and a foreign matter detector, converts the data in an X-Y coordinate system to divided elements in an r - θ coordinate system, computes a defect density in each of the divided elements at an operating part 9, and judges distribution abnormality based on a chi-square distribution. In the case of the distribution abnormality, the operating part 9 groups the distribution and computes an average value and a standard deviation for each of the defect density distributions in the groups, and compares these values with a preset conditional expression. A main controller 12, on the basis of an output received from the operating part 9, judges the necessity or non-necessity of its review. When judging the necessity of the review, the main controller 12 issues a signal to an alarm generator 10 to issue an alarm therefrom. The defect coordinate data is automatically transmitted to a review station, and the standard deviation and average are stored in the data storage means DB.

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